For the Medical Profession only.

ATOPHAN

TRADE MARK

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Chemical and Physical Qualities.

Atophan (Phenylcinchonic acid or Phenyl chinolincarbonic acid) is insoluble in water, but readily soluble in alkalies and, on warming, also in acids. It has a bitter taste, which, however, is scarcely recognizable in the aqueous suspension of the drug. On account of its tastelessness the methyl ester of the acid has been introduced, as Novatophan; it, also, is insoluble in water and is converted into the free acid by the addition of an alkali.

Pharmacological Properties.

Atophan derives its name from its property of causing the elimination of uric acid in a degree hitherto unknown, a property that renders it more effective than any other drug in the softening and removal of gouty deposits. Doses of 4—8 grains produce a definite increase in the excretion of uric acid within an hour, and after 15—45 grains the increase amounts to 100—300 per cent. whether the food contains purin bodies or not. This action is most marked on the first day; on the second and following days it is feebler, but still well marked. In gouty subjects this increased excretion persists longer than in healthy persons. On ceasing the administration of the drug the uric acid excretion falls temporarily below the normal.

As a result of this action the acid urine passed after taking Atophan shows a variable degree of turbidity owing to the presence of uric acid and urates. If the administration is continued the turbidity, in healthy subjects, only lasts one day and the urine acquires a claret-colour; in many cases, however, neither the turbidity nor the discoloration occurs.

Besides increasing the excretion of uric acid, Atophan has the further action of controlling the purin metabolism, and thus **diminishing the formation of uric acid** in the body. In the treatment of gout this two-fold action of Atophan is of great importance.

Atophan has other important properties in addition to those mentioned. It is powerfully **analgesic and antipyretic,**—properties that greatly promote the general therapeutic effect of the drug. Further, it possesses a specially marked **antiphlogistic** action, independent of its antipyretic effect. *This is well demonstrated in animal experiments: the chemosis that habitually follows the instillation of oil of mustard into the eye of a rabbit is completely prevented by the previous administration of Atophan.* This restraining influence on the inflammatory processes is dependent on a general tissue modification exercised by the drug, whereby the reaction of the organism to various irritants, assumes characters differing from the normal, and the usual effects of chemical or bacterial poisons are found, in animal experiments, to be absent or considerably diminished.

In normal conditions the amount of urine is not increased by Atophan; if, however, hydraemia is present an extraordinary increase occurs. This peculiar diuretic action is especially marked when the drug is taken in combination with diuretics of the purin group or with digitalis.

The secretion of bile is promoted by Atophan in a degree not hitherto obtained.

The Nitrogen-, Phosphorus-, and Sulphur-metabolism is unaffected by Atophan, and the urine remains free from albumin and sugar after repeated doses of 45—75 grains.

In the organism, Atophan is converted into Oxyphenyl-cinchonic-acid, Pyridincarbonic-acid occurring as a further product of decomposition. Characteristic colour tests for these oxy-acids in the urine are Ehrlich's diazo-reaction and the greenish-yellow colour produced by the addition of concentrated hydrochloric acid.

Clinical Indications.

Gout.

On account of its striking influence on purinmetabolism and its powerful analgesic properties Atophan is pre-eminently the best therapeutic agent in acute attacks of gout. Two to four Tablets of 8 grains given at the very beginning of the attack will usually cut it short with relief of pain. The signs of acute inflammation, redness and swelling rapidly subside, effusions into the joint are absorbed, and in many cases the uratic deposits become softened and disappear. The action resembles that of the colchicum preparations, but Atophan is more constant in its action, more rapid in relieving pain and produces none of the disagreeable concomitant effects of colchicum. **Atophan is also of considerable value in chronic gout:** 30—40 grains daily given at regular intervals serve to prevent the onset of attacks. Finally, it may be mentioned as a point of special importance, that the regular administration of Atophan will prevent the development of gouty diseases; the drug is, therefore, to be regarded as a prophylactic against gout.

Articular Rheumatism.

Atophan has a very conspicuous action in articular rheumatism, especially in its acute forms. The specific effect is observed often on the first day in typical, generally highly febrile cases, after three doses of 15 grains each; a typical, frequently critical fall of temperature occurs, with subsidence of the objective signs and relief of subjective symptoms. The most striking effect is obtained by giving 45 grains within the short space of six hours; or 60—75 grains may be given daily. The essential characteristic of Atophan-treatment in acute articular rheumatism is the striking abbreviation of the course of the disease and, as compared with the action of salicylates, **the absence of any deleterious effect upon the heart.** The drug may be safely administered even in the presence of endocarditis. Attacks of sweating such as usually follow the fall of temperature in salicin-treatment, do not occur.

Further, the antipyretic, analgesic and antiphlogistic properties of Atophan indicate its use in gonorrhoeal arthritis, neuralgia, sciatica, lumbago and similar affections; and its action as a cholagogue, in all forms of biliary congestion, such as catarrhal jaundice.

Diseases of the Eye and Ear.

When these are of gouty origin Atophan is employed with advantage. It s also useful in traumatic (non-bacterial) affections of the conjunctiva and in chronic irido-cyclitis, on account of its restraining influence on the inflammatory process.

Skin Diseases.

According to reports received, Atophan has useful applications in diseases of the skin, for instance in those associated with itching.

Pyorrhoea alveolaris.

In this and similar diseases in which an increased excretion of uric acid occurs, improvement usually follows the administration of Atophan.

Administration and Doses.

There are three modes of administering Atophan: —

1. By the Mouth.

The tablets are best taken after meals; swallowed whole and followed by a glass of water. For patients who are unable to swallow the tablets, the latter may be disintegrated in water. Original-Atophan-Tablets, which should be marked "Schering". completely disintegrate in water in half a minute.) Patients with irritable stomachs should take a small quantity of bicarbonate of soda (sufficient to cover the point of a knife) with the tablets.

The tasteless preparation, Novatophan, may also be mentioned.

Doses per os: —

Acute Gout: 2—4 tablets of 3 grains each.

Chronic Gout: 4—6 tablets daily for 4 days; then an interval of one week, followed by 4—6 tablets for 4 days, and so on (socalled "intermittent treatment").

Acute articular Rheumatism: 2 tablets 3 times a day; or better, 6 tablets within 6 hours.

Chronic Articular Rheumatism, Lumbago, Sciatica: 2 tablets 3 times a day by intermittent treatment as above described.

2. By Injection.

It has been recently shown that both the analgesic and the antiphlogistic actions of Atophan are remarkably increased by the parenteral administration of the drug, and if salicylic acid is combined with the Atophan an extraordinarily vigourous action is observed, often of astoundingly rapid onset. This combination may even produce, evidently through the central influence of the two components, a conditon of well marked euphoria. We have, therefore, decided to introduce a neutral solution of the sodium salts of Atophan and Salicylic acid under the name of

Atophanyl for Injection.

The solution, which is sterilised and supplied in ampoules, contains in addition, 0.16 per cent. of novocaine in order to render also the intramuscular injection painless. Atophanyl for injection is a clear yellowish brown fluid in which at low temperatures crystals become deposited, which, on warming the unopened ampoules to 80°—90° C., are redissolved. Each ampoule contains 8 grains of Atophan-sodium, 8 grains of sodium salicylate and 0.1 grain of novocaine in 5 c. c. of fluid.

In the first instance one ampoule is injected, preferably intravenously, but otherwise into the gluteal muscles. The effect, especially the relief of pain, generally lasts several hours. The injection can be increased up to 4 ampoules a day, and to effect a cure 10—15 injections are necessary on the average. Trifling pain is sometimes felt at and around the point of injection, but this disappears within 24 hours at the latest.

3. Per Rectum.

In rare cases in which severe organic disease of the stomach (ulcer) is present and injection is refused by the patient, it is recommended to administer Atophan per rectum in the form of suppositories, 2—3 daily, each containing 15 grains.

Original Packages.

Atophan Tablets, 8 grains each, in boxes containing 20, 10 and 6 tablets or in tubes of 20. Clinical packages containing 500 tablets.

Atophanyl for injection in boxes of 5 ampoules.

Suppositories containing 15 grains, in boxes of 10.

Other special products from the celebrated laboratories of Schering:

Veramon in powder and tablets, produces prompt analgesia without hypnosis. Probably the most useful analgesic yet introduced for all forms of painful conditions.

Krysolgan, for the gold treatment of tuberculosis and leprosy. Is non-toxic in effective doses and marks a great advance in the treatment of these diseases.

Medinal in tablets and for injection. The readily soluble hypnotic and sedative with no cumulative effects.

Arthigon, urotropine-gonococcal vaccine, for all gonorrhoeal complications. Combines a nonspecific with a specific stimulant.

Urotropine in tablets, the **first and the original** of all Hexamethylentetramin-Preparations.

Urotropine for injection (40% solution) for influenza, sepsis, postoperative retention of urine, meningitis.

Icterosan (Phenyl-chinolin-carboxylic acid preparation for injection) for treatment of icterus, cholecystitis and hepatitis.

Cylotropine for injection. (Urotropine-Salicyl-Caffein-Preparation) for obstinate pyelitis and cystitis.

Hegonon in tablets and bougies for local treatment of gonorrhoea in both sexes.

Samples and Literature on request from the Importers:

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